

May 2016

## Design With Purpose

Megan Saunders  
*Kansas State University*

Follow this and additional works at: <https://newprairiepress.org/seek>



Part of the [Higher Education Commons](#)



This work is licensed under a [Creative Commons Attribution-Noncommercial-No Derivative Works 4.0 License](#).

---

### Recommended Citation

Saunders, Megan (2013) "Design With Purpose," *Seek*: Vol. 3: Iss. 2.

This Article is brought to you for free and open access by New Prairie Press. It has been accepted for inclusion in Seek by an authorized administrator of New Prairie Press. For more information, please contact [cads@k-state.edu](mailto:cads@k-state.edu).

# Design<sup>with</sup> purpose

A researcher's efforts to develop guidelines for designing the gold standard in rehabilitation centers for wounded veterans could someday save lives.



In 2012, more soldiers took their own lives than died in battle. Vibhavari Jani's research may be the first step in using properly designed rehabilitation centers to save the lives of our nation's veterans.

Jani, associate professor of interior architecture and product design at Kansas State University, is working with a team of 14 graduate students to design prototypes of rehabilitation centers for soldiers with post-traumatic stress disorder, or PTSD, and traumatic brain injury, or TBI. She said the project began as a way to introduce service learning and community issues into her design curriculum.

"No one can resolve this mega-issue of wounded warriors coming back from Iraq and Afghanistan, but design can contribute to their well-being," Jani said. "Some of these wounded warriors are students here. I wanted to facilitate the relationship between our soldiers and the university while helping students understand how they can assist wounded soldiers through design."

A wounded warrior is described as any disabled veteran who has served on active duty since Sept. 11, 2001. Jani discovered that while local hospitals and nearby Fort Riley have therapy programs for these wounded warriors, they are often at full capacity and require patients to travel from center to center. Few facilities in the nation are devoted entirely to wounded warriors.

Jani and her students visited facilities at Fort Riley and Topeka Kan., to collect data and talk to staff about how to best provide for these veterans with such specific needs. Through lengthy research into PTSD symptoms and related ailments, Jani and her team discovered the ideal rehabilitation facility would meet three key goals: maintain a comfortable environment, facilitate community engagement and remain secure.

## Comfortable environment for soldiers, families and caregivers

Jani said that comprehensive rehabilitation facilities require more space so that alternative therapies — such as art, equine, gardening, cooking and gaming — can be provided on site. While these therapies are alternative and still need scientific research, Jani said they are considered very helpful and are gaining acceptance in the rehabilitation community.

"I would never have thought gaming systems, like a Nintendo Wii, could be so beneficial in therapy," Jani said. "Through research, we learned that gaming therapy helps PTSD and



"My guidelines addressed how to design specifically for veterans while integrating the family and community. Additionally, I created proposals for support services before and after deployment."

— Alexis Kiel, graduate student in interior architecture and product design from Bellevue, Neb., designed a wounded warrior rehabilitation facility that focused on integrating the community into the treatment process. Kiel's abstract will be published by the Environmental Design Research Association. Kiel's abstract will be published by the Environmental Design Research Association. She presented her research at the association's conference in May.



TBI patients' in their concentration and provides an avenue for stress release. It helps them gain back specific motor skills and is a return to a 'normal' activity they may have enjoyed before their deployment."

### **Community engagement and support**

Through their discussions with staff at rehabilitation facilities, Jani said her team learned more about the stigma associated with soldiers as they integrate back into society.

"There is a disconnect," she said. "Soldiers may be located here when they return, but often, they are not from the area. They need community support."

Jani said she and her students began to understand the importance of weaving community activities into their designs. She added that everyone's needs should be evaluated so the design can meet those needs.

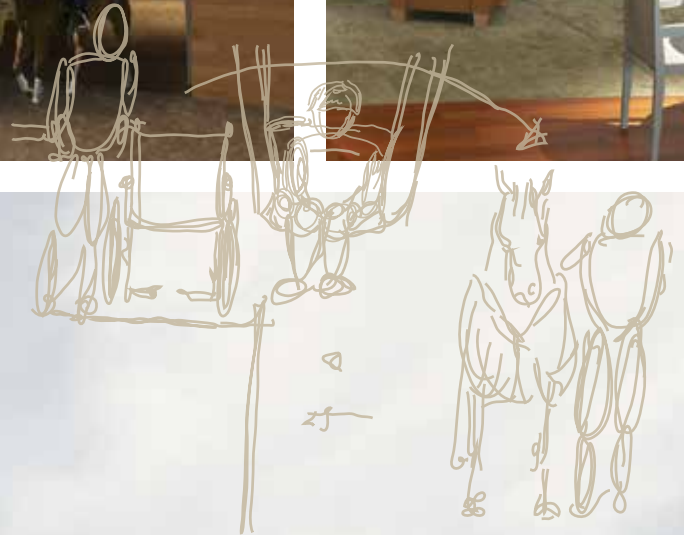
Based on the evidence gathered after their initial research, each student came up with facility requirements and designed a center based on these requirements. Many students emphasized the need for community support by including elements such as libraries that patients and community members could enjoy together, or an art gallery in which patients' art therapy work could be displayed.

### **Security**

Jani said that new students' designs carefully avoided elements that could be potential triggers for patients with PTSD. This included sound absorption systems to minimize noise that could potentially remind veterans of time in combat.

The research team also considered peripheral vision restrictions. Too much color or activity in the peripheral vision of a veteran suffering from PTSD or TBI can be overwhelming, so the





team was cognizant of not overloading their designs with material or certain colors.

“You could trigger a variety of experiences,” Jani said. “Students used design elements to create calm, peaceful environments.”

This included limiting the use of natural light. Although natural light is frequently used in health care design through windows or courtyards, Jani said the therapists they spoke with warned against the use of natural light for TBI patients.

“To design these rehabilitation centers, we really had to take into account the patients’ symptoms and design our space accordingly,” Jani said. “Patients with TBI cannot take much natural light. This means any TBI treatment area should be designed to provide light-shielding devices.”

After completing designs, the 14 graduate students presented at Fort Riley in front of the Army post’s commanders and hospital staff, who gave feedback to students.

Now, Jani is in the process of putting together the research to develop guidelines for rehabilitation centers that are specialized to meet the needs of wounded warriors. She said her goal is to create guidelines for new centers as well as to renovate existing centers. Jani also plans to continue her research through student involvement.

“A wonderful thing that happened was that students began to understand the importance of community engagement and service,” Jani said. “They understood that design can truly make a difference in someone’s life.”

**“I truly believe equine therapy is underutilized. When you consider the physical and therapeutic benefits of horses, there is no doubt it would be an effective program to rehabilitate wounded warriors.”**

— Caitlin Maus, graduate student in interior architecture and product design from Maynard, Minn., designed a rehabilitation center that focused on equine therapy. After volunteering at a therapeutic riding center, Maus said it was rewarding to see how the horses provided therapy, education and recreation for individuals with physical, emotional and developmental challenges.

*By Megan Saunders, Communications and Marketing*

